



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

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June 4, 2013

Mr. Peter Lopes
VA Healthcare System - Brockton
940 Belmont St.
Brockton, MA 02301

RE: Brockton
Transmittal No.: X255040
Application No.: SE-13-012
Class: SM-50
FMF No.: 54051
AIR QUALITY PLAN APPROVAL

Dear Mr. Lopes:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Limited Plan Application ("Application") listed above. This Application proposes to replace and operate the three burners in the three existing boilers at your medical center located at 940 Belmont St. in Brockton, Massachusetts ("Facility").

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

The VA Healthcare System Brockton is a medical center currently operating under Non-Major Comprehensive Plan Approval No. 4B97092 dated April 9, 1999. This Application proposes to replace the existing burners with three new burners in the existing boilers (Emission Units [EUs] Nos. 1 through 3) using natural gas and Ultra Low Sulfur Distillate (ULSD) Fuel Oil, while maintaining the exiting short term and long term fuel usage restrictions. Replacing these burners is a component of the Facility's Boiler Plan Upgrade Project, further described in the Application.

EU Nos. 1 through 3 are subject to Federal New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units. (40 CFR Part 60 Subpart Dc). This regulation covers boilers rated between 10 and 100 million Btu/hr. As MassDEP has not accepted delegation for Subpart Dc for non-major sources, you are advised to consult with the EPA for additional information. See Table 6 contained in this Approval.

The proposed burners demonstrate Best Available Control Technology by complying with 310 CMR 7.26(30) Environmental Results Program emissions limits. The proposed burners are classified as low-NOx burners, and feature flue gas recirculation.

There is no change to the facility's EUs Nos. 4 through 14.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
1, 2 & 3	Kewanee Boiler Model H3S-750-G02 Industrial Combustion Low NOx FGR Burner Model LNELG-336	31.5 MMBtu/hr / 29.2 MMBtu/hr ¹	none

Table 1 Key:

EU# = Emission Unit Number

PCD = Pollution Control Device

MMBtu/hr = Million British thermal units per hour

NOx = Nitrogen Oxides

FGR = Flue Gas Recirculation

Note:

1. The nameplate rating of the new burners is 31.5 MMBtu/hr but the maximum fuel flow rate is electronically restricted to approximately 29.2 MMBtu/hr.

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2					
EU#	Operational / Production Limit	Air Contam-inant	Emission Limit		
				ULSD Oil	Natural gas
1, 2, & 3	1. Fuel usage shall limited to 29.2 MMBtu/hour (each). 2. 33,600,000 standard cubic feet of natural gas per month (combined). 3. 214,200,000 standard cubic feet of natural gas per consecutive 12-month period (combined). 4. The sulfur content of the ULSD Fuel Oil used shall not exceed 0.0015 percent by weight. 5. 240,000 gallons of ULSD Fuel Oil per month (combined). 6. 269,400 gallons of ULSD Fuel Oil per consecutive 12-month period (combined).	PM / PM ₁₀ / PM _{2.5}	0.28 TPM	0.0089 lb/MMBtu	0.0076 lb/MMBtu
			1.00 TPY		
		NOx	2.98 TPM	0.14 lb/MMBtu	0.035 lb/MMBtu
			6.49 TPY		
		CO	1.29 TPM	0.039 lb/MMBtu	0.037 lb/MMBtu
			4.78 TPY		
		VOC	0.13 TPM	0.0021 lb/MMBtu	0.0055 lb/MMBtu
			0.64 TPY		
		SO ₂	0.04 TPM	0.0015 lb/MMBtu	0.0006 lb/MMBtu
			0.09 TPY		
Facil-ity-wide	See Section 4., Table 6, Special Term and Condition No. 3 of this Approval. Emission Limitations for EUs Nos. 4 through 14, as contained in MassDEP Approval 4B97092, dated April 9, 1999, remain unchanged.	PM / PM ₁₀ / PM _{2.5}	0.36 TPM		
			1.43 TPY		
		NOx	5.50 TPM		
			22.7 TPY		
		CO	1.83 TPM		
			8.29 TPY		
		VOC	0.28 TPM		
			1.55 TPY		
SO ₂	0.19 TPM				
	0.87 TPY				

Table 2 Key:

EU# = Emission Unit Number

NO_x = Nitrogen Oxides

CO = Carbon Monoxide

SO₂ = Sulfur Dioxide
PM = Total Particulate Matter
PM₁₀ = Particulate Matter less than or equal to 10 microns in diameter
PM_{2.5} = Particulate Matter less than or equal to 2.5 microns in diameter
VOC = Volatile Organic Compounds
TPM = tons per month
TPY = tons per consecutive 12-month period
ULSD = Ultra Low Sulfur Distillate
MMBtu = Million British Thermal Units

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	Monitoring and Testing Requirements
1, 2 & 3	1. For the purpose of calculating emissions resulting from each fuel fired at the facility, the following heat content values shall be used: a. Natural Gas = 1,020 Btu per cubic foot b. ULSD Fuel Oil = 140,000 Btu per cubic foot
	2. Monitor fuel oil purchases such that only fuel oil containing no greater than 0.0015 percent by weight is purchased for use in each unit.
Facility-wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	4. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13

Table 3 Key:

EU# = Emission Unit Number
USEPA = United States Environmental Protection Agency
ULSD = Ultra Low Sulfur Distillate
Btu = British Thermal Unit

Table 4	
EU#	Record Keeping Requirements
1, 2 & 3	1. Maintain oil analysis results used to demonstrate compliance with fuel oil sulfur content requirements.
Facility-wide	2. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An example of an electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping .
	3. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	4. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	5. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	6. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	7. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	8. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	9. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU# = Emission Unit Number

PCD = Pollution Control Device

SOMP = Standard Operating and Maintenance Procedure

USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Southeast Regional Office of MassDEP, BWP Compliance & Enforcement (C/E) Chief by telephone (508) 946-2878, email sero.air@state.ma.us or fax (508) 946-2865 or (508) 947-6557 as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to C/E Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	4. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.
	5. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	6. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

- A. The Permittee is subject to and shall comply with the Special Terms and Conditions as contained in Table 6:

Table 6	
EU#	Special Terms and Conditions
	1. These EUs are subject to the Federal New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60 Subpart Dc). This regulation covers boilers rated between 10 and 100 million Btu/hr. Since MassDEP has not accepted delegation for Subpart Dc for non-major sources, you are advised to consult with the EPA for additional information. There may be additional notification, recordkeeping, and reporting requirements. The address is Air Compliance Clerk, U.S. Environmental Protection Agency, Region 1, 5 Post Office Square, Suite 100, Mail Code OES04-2, Boston, MA, 02109-3912.
Facility-wide	2. This Plan Approval supersedes the production, operational, and emission limitations for EU Nos. 1 thru 3, as contained in MassDEP Approval 4B97092, dated April 9, 1999. Accordingly, this Plan also supersedes the Facility-wide (total) potential emission limitations. The underlying application for Plan Approval 4B97092 shall continue to remain valid.
	3. The production, operational, and emission limitations for Emission Units Nos. 4 through 14, as contained in MassDEP Approval 4B97092 dated April 9, 1999 continue to remain in force.

Table 6 Key:

EU# = Emission Unit Number

MMBtu = Million British Thermal Units

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.”
- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
1, 2 & 3	64.8	2.5	35	350 - 400

Table 7 Key:

EU# = Emission Unit Number

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or

town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Dan Kamieniecki by telephone at 508-946-2717, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Thomas Cushing
Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Brockton Board of Health
Brockton Fire Department
MassDEP/SERO – M. Pinaud
MassDEP/SERO – L. Black
MassDEP/Boston – Y. Tian
VA Healthcare System Brockton – B. Soltysik
Woodard & Curran, Inc. - K. Begin